

REMARKS

Previously, the Examiner required restriction of the invention(s) in the instant application to: Group I claims 1-12 and 46-51, or Group II claims 13-45 and 52-54. Applicants provisionally elected Group II claims 13-45 and 52-54.

The elected claims 13-45 and 52-54 have now been rejected under various grounds. Claims 13, 30-45 and 52-54 were provisionally rejected as being unpatentable over claims 1-52 of copending Application No. 10/147,156 (Tang et al) in view of the Roberts et al and George patents under the judicially created doctrine of obviousness-type double patenting. A duly executed Terminal Disclaimer submitted herewith is believed to overcome this rejection.

Claims 13-45 and 52-54 (all the claims in this application) were also rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-30 of US Patent 6,809,504. The same duly executed Terminal Disclaimer submitted herewith is believed to overcome this rejection.

Claims 13-32 were rejected as being unpatentable over Every US 5,959,372 in combination with Roberts et al (US 6,166,850) and George (US 6,392,612). The rejection of claims 13-32 is believed to be overcome by the herein amendments.

Claim 13 has been amended to more succinctly set forth Applicants' invention, as follows:

A power regulator for responding to transient power demands, comprising:
a negative transient response portion configured to ~~response~~ respond to fast transient negative current events, the negative response portion comprising a sense circuit and a first reference current source, each coupled to an amplifier for controlling a first output device; and

a positive transient response portion configured to ~~response~~ respond to fast transient positive current events, the positive response portion comprising a sense circuit and a second reference current source, each coupled to an amplifier for controlling a second output device-sink.

Amended claim 13 is readable, for example on Applicants' FIG. 5. The power regulator structure and mode of operation of FIG. 5 is neither taught nor suggested by

the three references of record (Every, Roberts or George) either singly or in combination. Moreover, there is no basis for even considering these three references in combination.

The primary reference (Every) does, in fact, relate to power management. However, the teachings of Every (including the columns specifically noted by Examiner) do not suggest Applicants' invention as recited in amended claim 13. Referring specifically to column 1 lines 30-60 in which FIG. 1 is also described, there is no suggestion of a negative transient response portion comprising, inter alia, a first reference current source and a positive transient response portion comprising, inter alia, a second reference current source. In FIG. 6 of Every, Applicants note switching regulator 646 providing power to Microprocessor 309. This can be compared to Applicants' FIG. 4 in which Primary Voltage Regulator 410 provides power to load 450. However, Applicants' FIG. 4 further discloses secondary voltage regulator 420. Applicants' FIG. 5 is then a schematic illustration of a power regulation system including a secondary regulator. Applicants' claim 13 recites the details of such a secondary regulator. Since Every did not contemplate a secondary regulator, he most certainly did not contemplate circuitry with the features recited in claim 13.

The Roberts et al patent was cited as a teaching for controlling positive and negative transients particularly at columns 5 and 6. However, the Roberts et al patent relates to an optical amplifier gain control. In particular, it describes a method of regulating the gain of such an amplifier by enabling/disabling a portion of the control system by the operation of a transient magnitude threshold sensor. As such, the structure and mode of operation of Applicants' invention as recited in claim 13 cannot be found in the Roberts et al patent.

The George patent was cited as teaching the utilization of a sense circuit and a sink circuit. Amended claim 13 now more succinctly sets forth Applicants' invention and describes inventive features beyond the mere utilization of a sense circuit and a sink circuit.

Thus, all three of the references fail at the point of novelty because none of the references teach or suggest Applicant's invention as recited in amended claim 13 either singly or in combination. Accordingly, even if the 3 references were properly

combinable (which they are not), the combination of the 3 references does not provide a valid rejection of amended claim 13 under 35USC103.

Therefore, amended claim 13 is believed to recite patentable subject matter. Claims 14-32 are believed to be allowable for the same reasons and also because they recite additional features of the invention. For example, amended claim 15 recites:

The power regulator for responding to transient power demands of claim 14, wherein the sense circuit in the negative transient response portion ~~further~~ comprises a sense transistor coupled to a the first reference current source and the output transistor, wherein quiescent current of the output transistor is less than the current supplied by the output transistor in response to a transient power demand.

This structure and mode of operation as illustrated, for example, in Applicants' FIGs. 6-9 and is found nowhere in the cited references. By way of another example, claim 31 recites:

The power regulation system of claim 30, further comprising a primary voltage regulator coupled in series to the power regulator, wherein the primary voltage regulator is configured to supply power to a load and respond to slow transient events, and wherein the power regulator is configured to respond to fast transient events.

The cited references do not disclose primary and secondary voltage regulators with a secondary voltage regulator having the structure and mode of operation recited in Applicants' amended claim 13.

Accordingly, for the reasons set forth herein, all the claims in this application, to wit, 13-45 and 52-54 are believed to be in condition for allowance.

For the sake of completeness, it is noted that Applicants have corrected an obvious clerical error in FIG. 5 where the line connecting amplifier 548 to Q3 was omitted. The replacement sheet and cover letter to the Chief Draftsman are enclosed herewith.

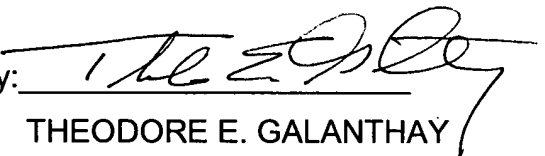
An early Notice of Allowance is earnestly solicited.

The undersigned would welcome a telephone call at the telephone number(s) listed below if such would advance prosecution of this application. It is hereby requested that all future communications be addressed to the undersigned as follows:

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A change of correspondence address form is enclosed herewith.

Respectfully submitted,

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